NORTHWESTERN UNIVERSITY

Office for RESEARCH

NORTHWESTERN RESEARCH NEWSLETTER

June 2010 Volume 2, Number 9

High Throughput Analysis: Taking Research to a New Level

Estimates indicate that there could be more than 40,000 genes in the human genome. This unit of heredity determines our most basic and benign traits, such as eye color, height, and hair texture. However, it can also determine whether or not we are susceptible to a vast number of both physical and mental illnesses like cancer, Alzheimer's disease, and autism. What if we could simply pinpoint the most problematic genes that cause these illnesses and merely turn them off?

We can. With the help from a newly discovered process that uses RNA interference, or RNAi, researchers can control which genes are active and which should be shut off. Northwestern is one of the few academic institutions working on this brand-new science, which is completed using the RNAi library in the High Throughput Analysis (HTA) Core located in Hogan Hall on the Evanston campus.

"This facility is transformative. It's not a place that allows you to do a better version of something that other facilities already allow you to do; it's a totally new way of doing science," says Eric Weiss, biochemistry, molecular biology, and cell biology (BMBCB) and funding and faculty director of the core facility. "Almost everyone who uses the facility comes back because we can take their research to a whole new level."

As the name of the facility implies, the High Throughput Analysis Core has the capacity to conduct experiments that require the manipulation of thousands of samples at a time. Work with RNAi is one of the more cutting-edge features offered by the core facility.

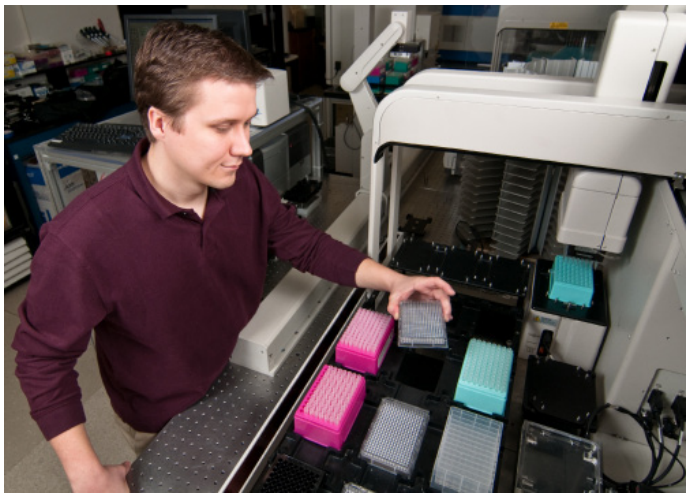
In 2007, Northwestern became one of the first universities in the country to acquire genome-scale collections to work with RNAi, which is a system within living cells that controls which genes are active. When manipulated, RNAi allows researchers to knock out specific genes in humans.

"We have tens of thousands of tubes in the freezer, and each tube contains a tool to knock down individual genes," explains Weiss, who uses the RNAi of microoganisms for his own research into better understanding the functions of genes. "Researchers can send us a list of genes they want to knock down, and we send them the tools."

Another service offered at the facility is the screening of chemical libraries. If a researcher wants to find a chemical that interferes with a specific set of biological processes, then he or she can examine the functions of hundreds of chemicals within a matter of seconds.

A collaborative project between the groups of Richard Silverman, chemistry, James Surmeier, physiology, and the HTA laboratory is currently in progress to find drug candidates for Parkinson's disease.

Story continues on next page >>



Brendon Dusel, research technician in the High Throughput Analysis Core, sorts samples to be screened in the lab.
Photograph by Richard Gaber

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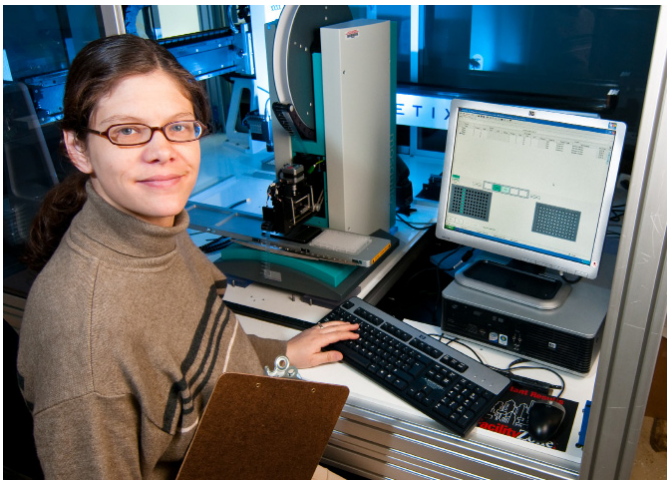


Sara Fernandez Dunne works as a research technologist in the High Throughput Analysis Core.
Photograph by Richard Gaber

"Work published in *Nature* by the Surmeier group linked a rare calcium channel in the brain to Parkinson's disease," explains Chi-Hao Luan, BMBCB and director of the facility. "We developed a high throughput screening assay and are testing chemical compound libraries to find a small molecule that selectively blocks this calcium channel in the brain. Then the targeted structure can be further modified by Silverman's group to become a potential cure for the disease."

Facility staff are integral in setting up and validating these initial assays. Luan says researchers frequently have ideas for new projects but are unsure if they can be executed at Northwestern.

"It's a challenging job for me because researchers come from all different fields. I never know who is going to call," Luan says. "So I usually ask them to give a quick presentation to educate me about what they hope to do. Then, together, we can come up with an approach using high throughput."

Once the assay is established, it can be validated in the core facility and potentially used as preliminary research for grant applications. "If people want to receive funding for a large-scale project, it's often impossible without some validation," Weiss says. "A lot of what our facility does is help researchers develop the preliminary data that are necessary for grants. In many cases, the data are spectacularly successful in providing the key information that researchers need to prove they can continue the project."

Luan says one of the next focuses for the High Throughput Analysis Core is to establish some K-12 educational outreach projects. "Our mission is to support research and education at the University," he says. "To foster the interest of future generation scientists, we're planning some outreach efforts where students can come into the lab and see real science instead of just watching it on television or through the Internet."

For more information about these and other services offered by the High Throughput Analysis Core, please visit www.biochem.northwestern.edu/hta.

New Program Encourages Local Students to "Reach for the Stars"

Teachers, students, desks, and chalkboards are all commonly found inside the walls of a middle school or high school classroom. Starting this summer, Northwestern will add "resident scientist" to the list.

Less than one year since its inception, the Center for Interdisciplinary Exploration and Research in Astrophysics (CIERA) has received its first external grant — a Graduate Teaching Fellows in K-12 Education (GK-12) grant from the National Science Foundation to fund a program called Reach for the Stars: Computational Models for Teaching and Learning in Physics, Astronomy, and Computer Science.

The five-year grant funds up to nine graduate students per year from the STEM (science, technology, engineering, and math) PhD programs to spend an average of 10 to 15 hours a week working as partners with K-12 teachers in the Chicago area. GK-12 fellows and teachers will meet regularly to compare best practices and coordinate activity development in ways that introduce classroom students to the research process.

As a sign of institutional support, Northwestern will contribute approximately $1 million to the grant, spread out over 10 years. When the NSF grant ends in five years, The Graduate School will continue to support "Reach for the Stars" with three fellowships per year, fulfilling the NSF's hope for long-term effects on STEM graduate education.

"The idea is to couple fellows with teachers; that team becomes the critical ingredient for making a successful program," says Vicky Kalogera, physics and astronomy, co-director of CIERA, and principal investigator on the project. "They will work closely together to develop lesson plans for the classroom that integrate computational thinking and scientific inquiry-based learning."

The co-principal investigators for the project are Kemi Jona, director of the Office for STEM Education Partnerships (OSEP), and Darren Gergle, communication studies. Gergle replaces Justine Cassell who was a co-PI on the original proposal. (Cassell is leaving Northwestern this summer to take a faculty position at Carnegie Mellon.)

Participating schools are located in Evanston, Chicago, Skokie, and Park Ridge, and also serve Niles and parts of Des Plaines, Morton Grove, Glenview, and Lincolnwood.

Teachers applied to receive a year-long partnership with one of the fellows and were chosen partly due to their expertise in best practices for science education. While students will reap the main benefit of having a STEM expert in the classroom, Kalogera emphasizes that the goal of the program is to enhance the skills of the graduate fellow.

"There is a concern that you can breed PhDs in STEM disciplines who are more and more removed from the community," she explains. "They could be expert researchers but have difficulty communicating what they do to non-experts. This will greatly advance their teaching and communication skills."

Fellows are required to enroll in a year-long class taught by Jona that focuses on effective methods for teaching science. In addition, teachers and fellows will participate in a one-week-long workshop in July to prepare for the school year.

A kick-off event to announce the program to the community is being planned for July 30, bringing University and local school administrators, government officials, and members of the local media together with first-year NSF GK-12 fellows and school teachers.

For more information, visit http://ciera.northwestern.edu/GK12.

$2M Hughes Grant to Hook Undergraduates on Science

Thanks to a $2 million grant from the Howard Hughes Medical Institute (HHMI), Northwestern is transforming the way its undergraduates will learn biological science.

Central to the transformation, the NU Bioscientist Program will offer two courses that will immerse freshmen in scientific inquiry and get them in the lab early.

"The trick is to start early with the sciences," said Linda Hicke, associate vice president for research and biochemistry, molecular biology and cell biology (BMBCB). "Students who enter a lab as freshmen or sophomores are much more likely to have a successful laboratory experience while they are at Northwestern."

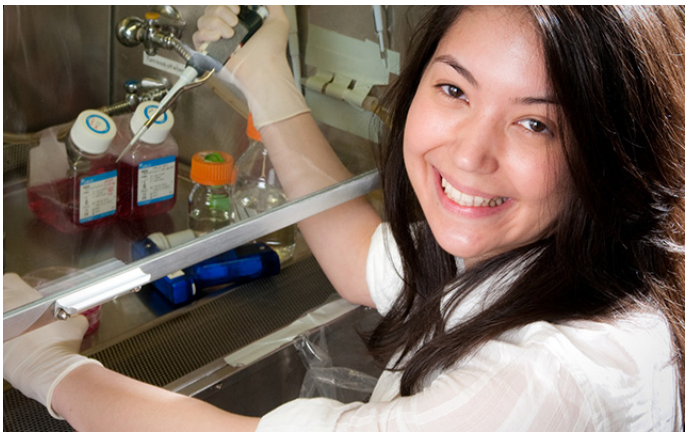
Through the HHMI support, Northwestern also is fundamentally changing the way its large introductory biology course will be taught by creating a summer bridge program for entering freshmen from groups traditionally underrepresented in the field and building a supportive network of biomedical mentors.

"Immersing freshmen in scientific methods, with innovative coursework and mentoring, to prepare them for independent lab work could make a big difference in students' futures," Hicke says.

The training could make the freshmen much more competitive for research funding early rather than later in their undergraduate studies and influence a passion for science that extends to academic and professional careers.

The new freshmen courses will prepare 30 talented students for independent laboratory research during the following summer. Students will then get funding to work with a Northwestern faculty mentor during the summer. Those who flourish will have the opportunity spend up to three years working in the laboratory of their choosing.

The NU Bioscientist Program represents collaboration between Northwestern's Program in Biological Sciences, the Searle Center for Teaching Excellence, the Weinberg College of Arts and Sciences, the McCormick School of Engineering and Applied Science, and the Feinberg School of Medicine.



Weinberg senior Silvia McCandlish works in the laboratory of Richard I. Morimoto, BMBCB. Morimoto's lab has a positive reputation for accepting and nurturing freshman and sophomore students for undergraduate research positions.
Photograph by Richard Gaber

Linda Hicke
Photograph by Richard Gaber

The large introductory course for all bioscience majors and premedical students will have a greater focus on interactive learning, integrate across disciplines, and focus on analytical reasoning and deep learning.

"The idea is for students to experience how knowledge is created," Hicke says, "instead of being passive absorbers of information."

The summer "BioEXCEL" program for entering freshmen from groups traditionally underrepresented in the bioscience field will include intensive preparation in calculus and chemistry, courses in leadership and current topics in biomedical research and community-building activities in the Chicago area.

Mentorships developed during the summer will be a source of support through later years at the University. "It's a jump-start program for students who come from high schools lacking the resources to provide intensive, advanced-level science classes," Hicke says.

A supportive community of biomedical scientists will be key to all the biological science efforts at Northwestern. Training will be provided to a network of mentors who are passionate about the scientific process and effective at communicating it to others.

The Howard Hughes Medical Institute, a nonprofit medical research organization, awarded a total of $70 million to 50 research universities to help strengthen undergraduate and precollege science education nationwide. The resources are intended to allow faculty to pursue creative ideas that teach and inspire students about science and research.

"By selecting these 50 grantees, we highlight areas and approaches that we think are particularly powerful," said David Asai, director of HHMI's precollege and undergraduate programs. "We hope that universities across the country — even those that are not HHMI grantees — will turn to these programs when they think about improving science education."

Story used courtesy of the Northwestern NewsCenter

Faculty Research Around Campus

A new study by **Luís Amaral**, chemical and biological engineering, and **R. Dean Malmgren**, a postdoc in Amaral's lab, found that mathematicians make better mentors for students when they are in the first third of their careers. *Full Story*

Gary Alan Fine, sociology, published a new book exploring how rumors about immigrants, terrorism, and trade hint at fears about the global world. *Full Story*

Jaime Grutzendler, neurology, conducted a study finding that capillaries expel debris such as blood clots, cholesterol and calcium plaque by growing a membrane that envelopes the obstruction and spitting it out. *Full Story*

Daniel Jacobs and **Jeffrey Raizer**, both neurology, authored a paper finding that caregivers are important for giving a complete clinical picture about brain cancer patients. *Full Story*

Malcolm MacIver, mechanical engineering, led a new study that researched the hunting strategies of a slender fish from the Amazon in order to find how to balance the metabolic cost of information with the metabolic cost of moving around to gather that information. *Full Story*

Research by **Douglas Medin**, **Sandra Waxman**, and **Jennifer Woodring**, all psychology, shows that young children's reasoning about the biological world is influenced by cultural beliefs. *Full Story*

Adilson Motter and **Takashi Nishikawa**, both physics and astronomy, conducted research finding that different factors interact antagonistically for a network to optimize, or efficiently perform, its task. *Full Story*

A trial led by **Theresa Pape**, physical medicine and rehabilitation, indicates that familiar voices can help heal traumatic brain injuries. *Full Story*

Marcus Peter, hematology oncology, was lead author of a paper about how a receptor thought to mediate cell death in normal cells may be responsible for the unrestrained growth of cancerous tumors. *Full Story*

Carol Podlasek, urology, led research finding that a damaged nerve that runs along the prostate can be regenerated with a protein delivered by a nanofiber gel. *Full Story*

June Robinson, dermatology, was senior author of a paper reporting that warnings about a damaged appearance are the best way to convince teenagers to stop visiting tanning salons. *Full Story*

And the winners are . . .

Thanks to everyone (all 536 of you) who responded to the readership survey for the Office for Research publications: *CenterPiece*, *Annual Report*, and the *Research Newsletter*.

Two names were pulled to win a $50 Barnes and Noble gift card each: **Steve Kahrs**, Project Café business systems specialist; and **Natalie Pulliam**, Feinberg School of Medicine research technologist.

Survey participants were generally positive about the OR publications. Many gave useful, constructive criticism, usually about content or distribution, that will be taken into consideration in issues to come.

Visit the Office for Research publications web page at www.research.northwestern.edu/orpfc/publications.html.

We welcome further feedback about the publications and suggestions for stories at any time. Contact Amanda Morris, publications editor, at amandamo@northwestern.edu or (847) 491-7930.

Faculty Honors and Awards

Pablo Boczkowski and **Jennifer Light**, both communication studies, were awarded **2010 School of Communication Innovations Grants**.

Five faculty members have been honored with a **Charles Deering McCormick teaching award**, the University's highest honor for teaching excellence. **Mary M. Poole**, theatre, and **Michael F. Smutko**, physics and astronomy, were named Charles Deering McCormick University Distinguished Lecturers. **Hans Jørgen Jensen**, music performance studies; **Indira M. Raman**, neurobiology and physiology; and **Angela G. Ray**, communication studies, were named Charles Deering McCormick Professors of Teaching Excellence.

Brodwyn Fischer, history, received the Conference on Latin American History's **Warren Dean Memorial Prize** and the **Urban History Association's Biennial Award** for her book *A Poverty of Rights: Citizenship and Inequality in Twentieth-Century Rio de Janeiro*.

Matthew Hurtgen, Earth and planetary science, received the **Faculty Early Career Development (CAREER) award** from the National Science Foundation.

Mary J.C. Hendrix, cancer biology, received the **2010 Paulette Shirey Pritchett Endowed Lectureship Award** from the University of Alabama at Birmingham.

Philip M. Iannaccone, pediatrics, received a plaque for **outstanding contributions** as an associate editor for *Environmental Health Perspectives*, a monthly journal published by the National Institutes of Health.

John A. Lynn, history, received the **Best Subsequent Book award** from Phi Alpha Theta History Honor Society for his book *Women, Armies, and Warfare in Early Modern Europe*.

Chandra Shekar Mayanil, neurological surgery, received a **SBAA Young Investigator award** from the Spina Bifida Association.

Phillip Messersmith, biomedical engineering, was named **fellow of the Royal Society of Chemistry**.

Ben Myers, materials science and engineering, received the **Microscopy Society of America Professional Technical Staff Award**.

Yohanan Petrovsky-Shtern, history, was awarded a **prize from Ab Imperio** for his article, which was chosen as the best article that introduced significant new sources on the history of the Russian Empire and the USSR.

Fruma Yehiely Named Director of ORD

Starting July 1, Fruma Yehiely, PhD, will be the director of the Office for Research Development (ORD). As director, she will oversee the strategic and operational functions of ORD, including accelerating and supporting large, multi-investigator proposals in all areas of research across Northwestern and advising faculty on strategic approaches to developing single- and multi-investigator research grants.

"Driven by Northwestern's commitment to excellence, ORD will assist researchers in pursuing their goals," Yehiely says. "Our plan is to work closely with faculty, administration, and funding agencies and be proactive in seeking funding opportunities."

Since 2008, Yehiely has served as the director for research administration for the division of fertility preservation in the department of obstetrics and gynecology and the Institute for Women's Health Research. A key person in the Oncofertility Consortium, Yehiely served as a liaison for the National Institutes of Health, for investigators from seven schools at the University, and for other institutions across the nation.

Yehiely joined Northwestern in 2004, working in the laboratory of Vincent Cryns, medicine, at the Robert H. Lurie Comprehensive Cancer Center. She helped establish a new research program aimed at studying breast cancer stem cells, managed a translational, multi-disciplinary study, and served as a co-investigator on several grants. She authored numerous peer review publications, reviews, and book chapters and has presented at national and international conferences.

Fruma Yehiely
Photograph by Amanda Morris

Yehiely welcomes questions and comments. She can be reached at yehiely@northwestern.edu.

Office for Research Employees Honored at Luncheon

Three Office for Research (OR) employees celebrated their years of service to the University over angel food cake with poached blueberries and fresh whipped cream. And a visit from Northwestern president Morton Schapiro served as the cherry on top.

The Annual Staff Service Recognition luncheon serves a five-star meal to those who reach monumental milestones of service in order to publicly honor their years of expertise, mentorship, and dedication to the University. In addition to the president, the senior vice president and departmental colleagues of honorees also attend.

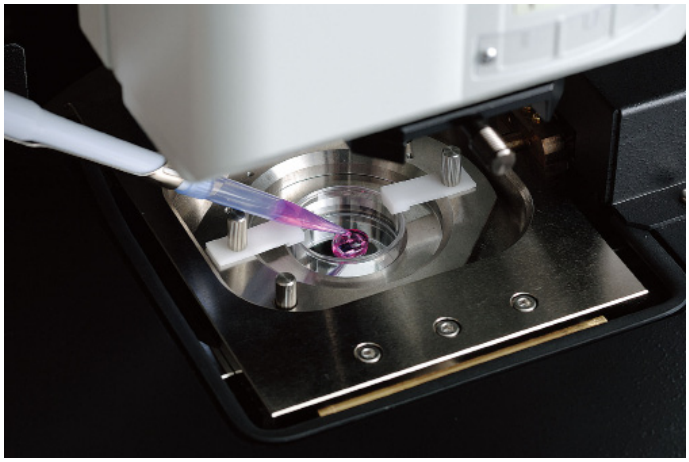
The 33rd Annual Staff Service Recognition luncheon was held on May 11 in the Grand Ballroom of the Hyatt Regency Hotel in Chicago. Honored OR staff included Susan Ross, Brenda Bryant, and Joseph Princewill.

Ross, executive director of the Office for Sponsored Research in Evanston, was honored for 25 years of service to the University. Bryant, systems analyst and senior program project manager for the Office for Research Information Systems, and Princewill, health physicist and assistant radiation safety officer for the Office for Research Safety, were both honored for 20 years of service.

Two notable friends of the Office for Research were among the finalists for Employee of the Year. Those staff members were Elizabeth Adams, director of research administration at McCormick, and Lori Palfalvi, research administrator at Feinberg and president of Northwestern University Research Administration Professionals (NURAP).

Learn more about employee recognition programs here on the human resources site.

BIF Selected as Site for New Instrument



Northwestern's Biological Imaging Facility (BIF) was selected as one of two sites in the world to receive a JEOL Clairscope (JASM-6200). JEOL also designated BIF as an applications development center to collaborate with JEOL scientist to design new methodologies.

This new instrument (shown above) integrates an Olympus upright configuration widefield fluorescence microscope with an inverted column scanning electron microscope.

"The ClairScope can be applied to a variety of sample types, but is particularly well-suited to performing correlative microscopy on biological specimens," says William Russin, neurobiology and physiology, and manager of BIF. "Making this novel technology available to our users will be of significant benefit to their projects and undoubtedly open new research avenues."

Read the full story here.

Global Engagement Summit Receives Award

The Global Engagement Summit (GES) won the Outstanding Community Service Event Award at the 23rd Annual Norris Center Student Recognition Banquet on May 18. The award was presented to GES co-directors Megha Agrawal and Allison Bream.

GES is a five-day training conference for students committed to global change. Since its conception, GES has hosted undergraduates and recent graduates from more than 40 countries and 50 universities, with more than 35 global nonprofits. The GES alumni community has grown to more than 550 people.

Through workshops, direct mentorships with nonprofit leaders, and outcome opportunities, GES delegates develop projects in microfinance, community development, global health, sustainable engineering, and many other change-based ideas. Delegates come together to understand the challenges of and opportunities for their engagement; to hone the skills and mindsets that will enable them to better plan, execute, and participate in change-based projects; and to connect with like-minded peers from around the world.

GES, which was founded in 2005 by Nathaniel Whittemore, is part of the Buffett Center for International and Comparative Studies' Center for Global Engagement.

International delegates of the 2010 Global Engagement Summit received a tour of the city as a part of Engage Chicago, a three-day, pre-summit program. During Engage Chicago, delegates volunteer with communities and non-profits in the Chicago area.
Photograph used courtesy of GES staff

Read full article about the GES award on the Buffett Center web site.

National Lab Day Wows Students

Photograph by Michael Kennedy

Sixth and seventh grade students (shown above) learned how to make alginate — a gelatinous substance derived from some forms of algae — beads in the laboratory of Teresa Woodruff, obstetrics and gynecology. The lab uses the beads to preserve ovarian follicles.

Woodruff's lab was one of the four visited as a part of a field trip organized by Michael Kennedy, director of science outreach and public engagement in the Office for Research, to celebrate National Lab Day. Graduate students and postdocs led the lab tours and facilitated activities for students from John T. McCutcheon Elementary, a Chicago Public School located in the Uptown neighborhood.

Students also prepared a blood sample for microscopic analysis, measured cell protein concentrations, and loaded DNA samples for analysis.

The field trip was an extension of the ongoing Science Club initiative, an after-school mentorship program led by Kennedy that pairs Northwestern graduate students with urban youth at the Boys & Girls Clubs of Chicago. Science Club is supported by a Science Education Partnership from the National Center for Research Resources, a component of the National Institutes of Health.

New Fellows Program for Entrepreneurial Undergrads

Last month faculty, alumni and supporters of the department of chemistry gathered to honor Northwestern faculty member Joseph B. Lambert, the Clare Hamilton Hall Professor of Chemistry. During the event, Andrew C. Chan, vice president of the biotechnology company Genentech, announced his commitment to fund the Chemistry of Life Processes Institute (CLP) Lambert Fellows Program in Lambert's name.

Lambert (*shown on the right*) was Chan's advisor in the late 1970s at Northwestern and had a profound impact on his educational experience. Chan is currently the senior vice president of immunology at Genentech, the founder of the biotechnology industry, and a member of the University's CLP Executive Advisory Board.

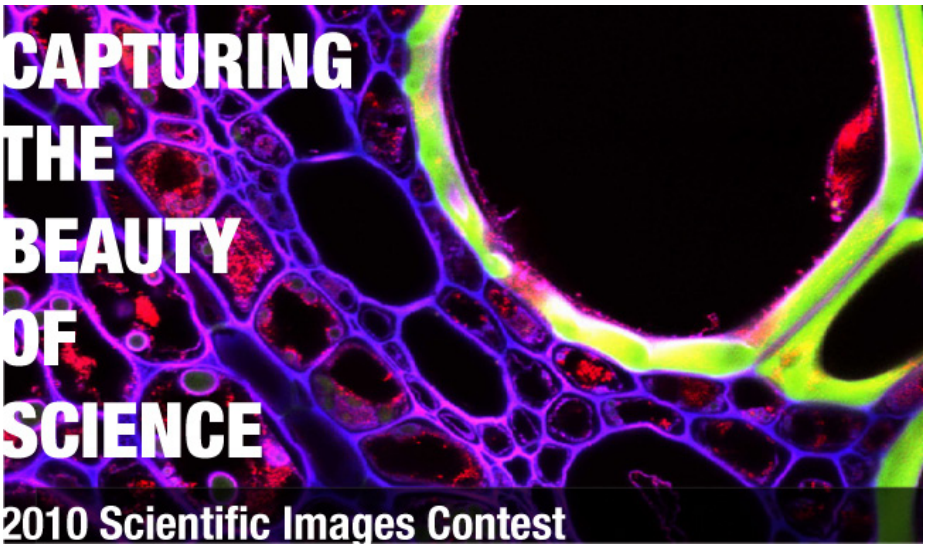
The funds that Chan donated will provide multi-year support for hands-on laboratory research for rising sophomores and juniors majoring in chemistry under the mentorship of CLP faculty members.

The Lambert Fellows program is built to create a set of enthusiastic, well-trained undergraduates who have entrepreneurial approaches to scientific research.

The program will consist of three elements essential to undergraduate training in multi-disciplinary research: (1) a combination of a stipend and funds for lab materials for intensive summer research; (2) funding for lab supplies for academic year research; (3) funding to support participation in conferences. Each Fellowship award amounts to $7,000 annually.

An application form is available on the CLP website (http://www.clp.northwestern.edu/education/clp-lambert-fellows-program).

Now Accepting Submissions: Scientific Image Contest



Some of the more interesting byproducts of scientific research are the beautiful images that are often produced in the process.

This summer, Science in Society, Northwestern's science outreach e-magazine, and the Office for Research will sponsor a contest to allow researchers to share these images with their peers and the community at large.

"Capturing the Beauty of Science" is a contest for research-based images from any scientific discipline at Northwestern. Submissions are now being accepted through July 31.

"Research laboratories produce a variety of visually stunning, captivating images," says Michael Kennedy, director of the science outreach and public engagement in the Office for Research. "Sharing these images with the public is a perfect way to showcase both the inherent beauty of nature and the broader benefits of scientific research."

Open to all Northwestern faculty, students, and staff, the contest will award cash prizes to the submitters of the top five images. Judging will be based on aesthetics, originality, and composition and will take place in August with results announced in September.

Each entry must include a short description of the image, how it was generated, and its relationship and significance to the research project that supported its production. Images must not be fundamentally altered from their original form or combined with other images for artistic effect.

For more information and/or to enter the contest, visit www.scienceinsociety.northwestern.edu.

The scientific image used in the advertisement banner shown on the left is used courtesy of William Russin, neurobiology and physiology, and manager of Northwestern's Biological Imaging Facility.

Northwestern Research in the News, May 12 – June 15

Luís Amaral, chemical and biological engineering, and his study about how younger scientists make better mentors were in the *New Scientist*.

Mark Beeman, psychology, and his paper about the "Aha! moment" were in the *New York Times*.

Sara Broaders, psychology, commented on how gestures can mislead children in LiveScience.

Gary Alan Fine, sociology, and his book about rumors were in the *Washington Post*.

Jaime Grutzendler, neurology, and her finding that blood vessels expel debris by spitting were in *ScienceNews* and *Genetic Engineering and Biotechnology News*.

Physics World ran a feature article by **William Halperin**, physics and astronomy, in which he argues for the conservation of helium-3 in order to save the research area of low-temperature physics.

The Associated Press ran a story about **Linda Hicke**, associate vice president for research, and her $2 million grant from the Howard Hughes Medical Institute for undergraduate science.

Cheryl Judice, Alliance for Graduate Education and the Professoriate, commented on the trend of women marrying men with less education and income on CNN.

Joseph Leventhal, surgery, was mentioned in the Associated Press for giving stem cell infusions to transplant recipients.

Theresa Pape, physical medicine and rehabilitation, and her research into familiar voices helping coma patients were in the *Chicago Sun-Times* and MSNBC.

June Robinson, dermatology, and her study about how suntanning teenagers are more worried about wrinkles than cancer were in *Time* and the *Chicago Tribune*.

James Rosenbaum, education and social policy, commented on alternatives for students who do not plan to attend college in the *New York Times*.

Lynn Spigel, radio/television/film, commented on how cable TV stations target niche audiences instead of the masses in the *New York Times*.

Brian Uzzi, management and organizations, discussed how managers should react to workplace rants on social media on CNN.

Phyllis Zee, neurology, discussed how the iPad and laptop computer affect sleep on CNN.

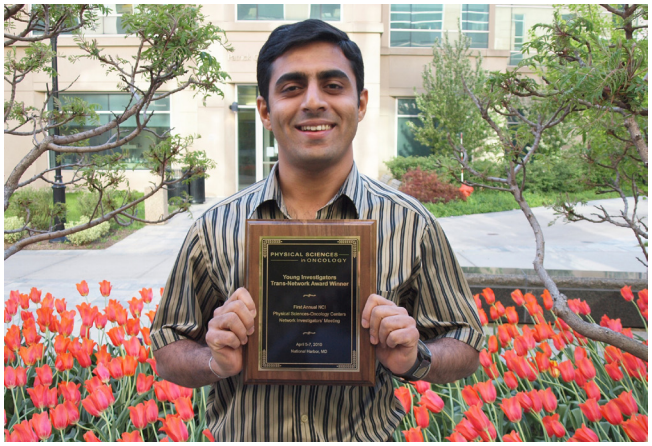
Damania Receives PS-OC Young Investigators' Award

Although the Northwestern University Physical Sciences-Oncology Center (PS-OC) was established only last fall, Dhwanil Damania, a PhD student in biomedical engineering, believes his experience as an NU PS-OC trainee has already had a significant impact on his research skills. As Damania explains, both the NU PS-OC and its eleven sibling research centers, which rely on physical sciences-based approaches to understand and control cancer, strongly advocate interdisciplinary collaboration to achieve their goals.

This emphasis on collaborative science, he says, has helped him think more creatively both in his approach to problem solving and in the way he envisions future paths for his work.

Over the next twelve months, he will have a new opportunity to apply this creativity. At the recently held PS-OC National Investigators Meeting in Bethesda, MD, a team comprised of Damania and two trainees from the Scripps Physical Sciences-Oncology Center, Kevin Phillips and Joseph Aslan, received a one-year, $10,000 Young Investigators' Research Award, funded by the National Cancer Institute, for their proposal to develop a novel method for characterizing the pathophysiological features of circulating tumor cells (CTCs).

-- Adapted from a story by Will Kazmier
Read the full story on the PS-OC web site here



Dhwanil Damania displays the plaque he received in honor of his Young Investigators' Research Award. The money for the award will fund Damania's research into circulating tumor cells, which have long been known to play a key role in the metastasis of cancer by detaching from existing tumors, traveling through the bloodstream, and forming secondary tumors in new locations. "This [research] is something that could potentially improve current methods for understanding — and eventually treating — the spread of cancer," he says.

Photograph by Will Kazmier

Training Calendar, June 16 – August 3

Evanston

Radiological Surveys by Laboratory Personnel
Wednesday, June 16, 1 p.m.
Wednesday, June 23, 1 p.m.
Wednesday, July 28, 1 p.m.
Technological Institute

Advanced Laser Safety Awareness Training
Thursday, June 17, 1 p.m.
Technological Institute

Laboratory Safety and Personal Protective Equipment Training
Thursday, June 17, 2 p.m.
Thursday, July 15, 2 p.m.
Technological Institute

Radiological Emergency Management in Radiation Laboratories
Thursday, June 24, 1 p.m.
Thursday, July 29, 1 p.m.
Technological Institute

Hazardous Waste Management
Tuesday, July 6, 2 p.m.
Tuesday, August 3, 2 p.m.
Technological Institute

Comprehensive Radiation Safety Training
Tuesday, July 13, 2 p.m.
Technological Institute

Bloodborne Pathogens Training
Tuesday, July 20, 10 a.m.
Technological Institute

Safe Shipping of Biological Materials
Tuesday, July 20, 2 p.m.
Technological Institute

Chicago

Advanced Laser Safety Awareness Training
Friday, June 18, 1 p.m.
Ward Building

Radiological Emergency Management in Radiation Laboratories
Friday, June 25, 1 p.m.
Friday, July 30, 1 p.m.
Ward Building

Laboratory Safety and Personal Protective Equipment Training
Thursday, July 1, 10 a.m.
Ward Building

Hazardous Waste Management
Thursday, July 1, 2 p.m.
Ward Building

Bloodborne Pathogens Training
Tuesday, July 13, 10 a.m.
Ward Building

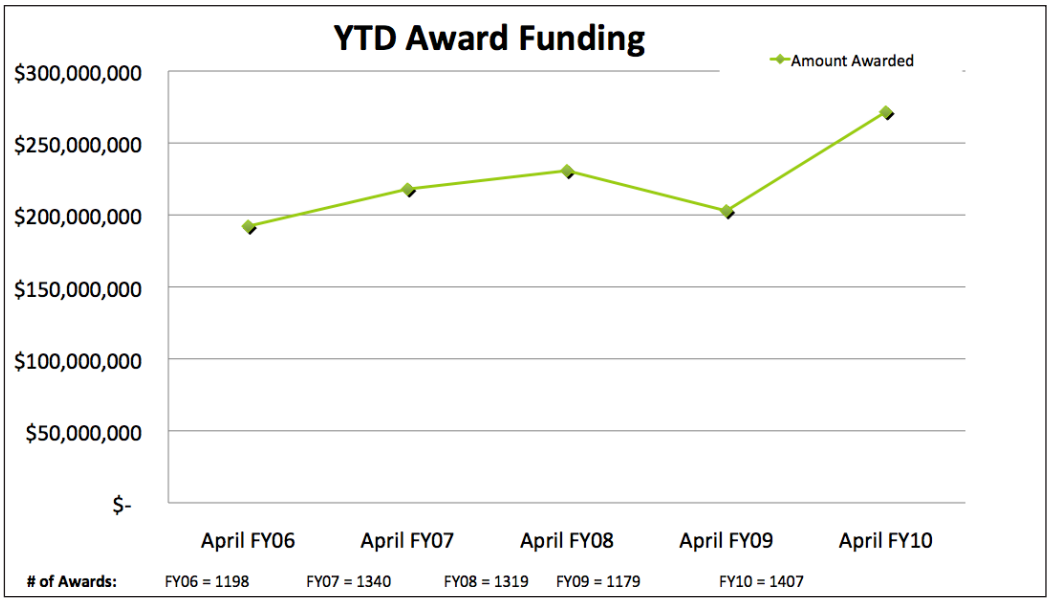
Safe Shipping of Biological Materials
Tuesday, July 13, 2 p.m.
Ward Building

Comprehensive Radiation Safety Training
Wednesday, July 14, 10 a.m.
Ward Building

For a complete schedule of events and details, please visit www.research.northwestern.edu/training

Proposal and Award Reports through April 2010

The total amount of award funding received this fiscal year through April 2010 is $271.6 million, an increase of 34 percent ($68.7 million) over April 2009. This includes 117 awards totaling $27.8 million in funding from the American Recovery and Reinvestment Act (ARRA).



The dollar volume of awards to Feinberg increased by 42 percent ($51.3 million), while those to McCormick grew by 54 percent ($12.6 million). Weinberg awards also grew by 20 percent ($4.9 million). School of Law awards reflected a decrease of 71 percent ($1.4 million).

In April 2010, the dollar volume of awards from Federal agencies increased by 51 percent ($71.4 million). Some of this significant increase is due to the ARRA funding as noted above ($27.8 million). Voluntary health organization and State of Illinois agency awards also increased by 11 percent ($1.1 million) and 23 percent ($1.0 million) respectively. Awards from foundations were down by 15 percent ($2.7 million), while those from educational institutions also decreased by 71 percent ($1.5 million).

The dollar volume of proposals submitted through April 2010 is $1.5 billion, an increase of 5 percent ($68.3 million) over the total reported in April 2009. Research Centers & Institutes' activity increased by 81 percent ($82.8 million), while proposals from Feinberg were up by 5 percent ($44.7 million). Research Operations proposals increased by $22.0 million. SESP proposals doubled ($20.2 million), and Weinberg proposals rose by 9 percent ($10.7 million). The dollar volume of McCormick proposals decreased by 36 percent ($110.0 million).

In April 2010, the dollar volume of proposals submitted to Federal agencies increased by 6 percent ($73.9 million), while submissions to educational institutions tripled ($7.0 million). State of Illinois agency proposal activity also tripled ($4.6 million). Proposals to voluntary health organizations reflected a decrease of 11 percent ($5.4 million), while those to foundations dropped by 14 percent ($5.3 million).

To access the reports electronically through the Office for Sponsored Research web site, visit www.research.northwestern.edu/osr/reports.html. A valid Northwestern NetID and password are required for login.

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NORTHWESTERN UNIVERSITY

Summer Newsletter Publication Schedule

The next issue of the Northwestern Research Newsletter will be published online Wednesday, August 4. The Office for Research will return to the regular newsletter publishing schedule of every third Wednesday beginning September 15, 2010.

To browse previous issues, visit www.research.northwestern.edu/orpfc.publications/newsletter.